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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicant	: Brad Calder et al.
App. No	: 10/729,100
Filed	: December 5, 2003
For	: SYSTEM AND METHOD OF ANALYZING INTERPRETED PROGRAMS
Examiner	: Insun Kang
Art Unit	: 2193

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Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

Enclosed with this Request is a Notice of Appeal.

REASONS FOR REQUEST

Review of the above-identified application is requested for the following reasons:

In paragraph 6 of the Office Action dated September 26, 2007, the Examiner rejected Claims 1-47 under U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,114,150 to Dimpsey, et al. (the '150 patent). Applicant respectfully submits that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *See* M.P.E.P. § 2131. For the reasons set forth below, Applicant respectfully submits that the '150 patent fails to anticipate the pending claims.

I. The '150 Patent Fails to Disclose all Features of Independent Claim 1

Claim 1 recites: "identifying at least one construct in a program, wherein the program is configured for native execution on a first processor." Claim 1 further recites: "interpreting, via an interpreter, the program on a second processor." The '150 patent describes methods of analyzing java programs that make use of interpreted code, jitted code, and "native methods" that are native to the platform where the java interpreter is running (Figure 3B, col. 6 lines 40-67, col. 7 lines 1-29). The '150 patent does not disclose that these conglomerate java programs are configured for native execution on a first processor and interpreted on a second processor. The Applicant notes that in framing the rejection, the Examiner divided individual claims into one or more bulleted sections and cited material from the '150 patent at the end of each section. With respect to Claim 1, the first bulleted section contains: "identifying at least one construct in a program, wherein the program is configured for native execution on a first processor." The portions of the '150 patent cited by the Examiner with respect to this section arguably relate to identifying a construct in a program: "a specified location in a routine," col. 8 lines 33-45; "the hot spot... is identified," col. 2 lines 58-51; Fig. 11 (Office Action Page 3). However, the Examiner failed to identify anything in the '150 patent disclosing that the program being interpreted on a second processor is configured for native execution on a first processor.

Applicant advanced a similar argument in response to the previous Office Action. In responding to this argument in the present Office Action, the Examiner cites material from the '150 patent related to small pieces of code, called "hooks", which may be inserted into a program (Office Action, page 13). While these hooks may be natively executable on any number of processors, the addition of such hooks to the java programs of the '150 patent does not mean that the program is configured for native execution on a first processor and that the program is interpreted on a second processor. Furthermore, the '150 patent teaches that native methods and interpreted code are distinct (col. 7 lines 21-30). The Examiner has not cited anything in the '150 patent that teaches that a program native to a first processor is being interpreted on a second processor. In both making the rejection and responding to Applicant's arguments, the Examiner has failed to identify any disclosure in the '150 patent that discloses each of the features discussed above. As such, Applicant submits that the '150 patent fails to anticipate Claim 1.

II. The '150 Patent Fails to Disclose all the Features of Independent Claims 10, 24, 37, and 41

As each of Claims 10, 24, 37, and 41 recite at least some of the features discussed above with reference to Claim 1, Applicant submits that the '150 also fails to anticipate Claims 10, 24, 37, and 41 for at least the same reasons. For example, Claim 10 recites: "an interpretable program; and interpreting, via an interpreter, the interpretable program for execution on a processor, wherein the interpretable program includes machine instructions from a second machine instruction set, wherein the processor is configured to execute machine instructions from the first machine instruction set." Claim 24 recites: "an interpretable program; and means for interpreting the interpretable program for execution on a processor, wherein the interpretable program includes machine instructions from a second machine instruction set, wherein the processor is configured to execute machine instructions from the first machine instruction set." Claim 37 recites: "interpret a binary program on a first processor, wherein the binary program includes machine instructions from a machine instruction set of a second processor." Claim 41 recites: "a program" and "interpreting the program for execution on a processor, wherein the program includes machine instructions having a second machine instruction set, wherein the processor is configured to execute machine instructions from the first machine instruction set." Accordingly, Applicant submits that the '150 fails to anticipate Claims 10, 24, 37, and 41.

III. The '150 Patent Fails to Disclose all the Features of Independent Claim 31

Claim 31 recites: "interpreting a binary program on a first processor, wherein the binary program is configured for native execution on a second processor." Claim 31 further recites: "executing the binary program, including the trigger instruction, natively on the second processor." The Examiner rejected this claim: "for the same reasons set forth in connection with the rejection of Claims 1-9." (Office Action, page 10). Applicant submits that Claims 1-9 do not mention the above cited features. As such, the basis for the Examiner's rejection is unclear. Regardless, Applicant submits that nothing in the '150 patent discloses the above recited features. The '150 patent teaches analyzing java programs that may make use of interpretable, jitted, and native code (Figure 3B, col. 6 lines 40-67, col. 7 lines 1-29). As discussed with respect to Claim 1, Applicant submits that these disclosed java programs are not binary programs configured for native execution on a processor separate from the one on which they are interpreted. Further, the '150 patent does not teach executing the program natively in addition to

interpreting the program. In responding to a similar argument made by Applicant in responding to the previous Office Action, the Examiner cited the '150 patent for teachings related to a flagging system related to the execution of hooks (Office Action, page 14). While the '150 patent clearly teaches that hooks inserted into a java program may be natively executable, the reference fails to teach that the interpreted java program is executed natively. For at least this reason, Applicant submits that the '150 patent fails to anticipate Claim 31.

V. The '150 Patent Fails to disclose all the Features of Independent Claims 43 and 45

Claim 45 recites that: "the means for interpreting transmits gathered trace information to the means for analyzing upon encountering a no-op instruction in the binary program." The '150 patent teaches identifying a hot spot and inserting hooks to pass control of program flow and gather information (abstract). The citations to the '150 patent by the Examiner with respect to this limitation do not teach that the hooks or hot spot methods comprise no-op instructions (Office Action pages 11, 12). Indeed, neither the citations nor the '150 patent as a whole mention no-op instructions. However, in responding to the Applicant's remarks the Examiner cited to a flag system for controlling the execution of hooks (Office Action, page 15). Specifically, the examiner stated that: "Dimpsey discloses the instrumentation code that is added to the binary program ("the dynamically inserted hooks are executed," col. 16 lines 3-20). Therefore, the instrumentation code is a no-op instruction." From these remarks, it appears that the Examiner is interpreting an unexecuted hook as comprising no-op instructions. Applicant submits that a person having ordinary skill in the art to understand that a no-op instruction is an instruction that when executed, essentially does nothing to affect the state of the processor. The Examiner's apparent assertion that an instruction that is unexecuted because of a condition is a no-op instruction is incorrect as such instructions perform the function described in the '150 patent when executed. Nothing in the '150 patent suggests predicating any activity "upon encountering a no-op instruction in the binary program," as recited in Claim 45. As such, Applicant submits that the '150 patent fails to anticipate Claim 45. Claim 43 similarly recites: "designating at least one no-op instruction as a trigger in the original code." Applicants submit that the '150 fails to anticipate Claim 43 for at least the same reasons.

VII. The '150 Patent Fails to disclose all the Limitations of Independent Claim 46

Claim 46 recites: "storing the identified trigger location in a file that is separate from the binary program." In rejecting this claim, the Examiner cited the '150 patent for material related

to the identifying of hot spots, inserting hooks, and gathering data to be analyzed (Office Action, pages 12, 15). The Applicant does not understand what the Examiner is interpreting to be "the identified trigger location," recited above. As such the Applicant is unclear how to address the present rejection. However, if the Examiner is interpreting the hooks to be the triggers, Applicant submits that the citation from the Examiner fails to show that the locations of the hooks are stored to an external file. The cited portions indicate that "trace data" may be written to a file, but do not disclose that trigger location is part of the trace data. (col. 8, lines 35-45). As the Examiner has failed to cite anything from the '150 patent that teaches "storing the identified trigger location is stored to a file separate from the binary program," Applicant submits that the '150 patent fails to anticipate Claim 46.

IV. The '150 Patent Fails to Disclose all the Features of Independent Claim 47

Claim 47 recites: "storing the identified trigger location in a data section of the binary program." In rejecting the present claim, the Examiner cited to the '150 patent for the proposition that: "the data collected [in] the trace buffer is sent to a trace file for post processing." (Office Action, page 13). However, there is no teaching or suggestion in the '150 patent that such data in the trace buffer is stored "in the data section of the binary program" as recited in Claim 47. As such, Applicant submits that Claim 47 is not anticipated by the '150 patent.

As the balance of the claims are dependent upon the above discussed independent claims, Applicant submits that the '150 patent fails to anticipate them for at least the same reasons.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 12/3/2007

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